



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,597	07/23/2001	Christian Sarbach	72211-9014	3565

23409 7590 07/13/2005

MICHAEL BEST & FRIEDRICH, LLP  
100 E WISCONSIN AVENUE  
MILWAUKEE, WI 53202

EXAMINER

SUNG, CHRISTINE

ART UNIT PAPER NUMBER

2878

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/856,597

Applicant(s)

SARBACH ET AL.

Examiner

Christine Sung

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 11-17 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. The amendment filed on March 18, 2005 has been entered.
2. The drawing amendment filed on March 18, 2005 has been entered.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (US Patent 4,747,686) in view of Kimura (US Patent 4,884,200 further in view of Fay et al. (US Patent 5, 149,972 A).

Regarding claim 1, Sato discloses an apparatus (Figure 1) for acquisition of fluorescent images (abstract) of a plane object (element 4), comprising a housing means (element 5) for housing the plane object, a UV source (or xenon source, element 7) inducing photoluminescence or fluorescence (column 3, lines 31-44) of said object and a sensor (element 8) sensitive to

Art Unit: 2878

fluorescent radiation (column 3, lines 37-40), with a linear sensor (column 3m lines 46-54) provided with a plurality of aligned photosites (column 3, lines 57-64), at least one UV radiation source (element 7), an a means for controlling illumination with UV radiation (column 3, lines 51-53), with the acquisition of succession of image lines (column 3, lines 44-64) corresponding to at least one region of the plane object whose image it is desired to acquire. Sato does not disclose a carriage that moves with respect to the object. However, such carriages are well known in line sensors, as disclosed by Kimura (Figure 1, element 11) as a moveable line sensor. One of ordinary skill in the art would be motivated to use the moveable line sensor as disclosed by Kimura with the invention as disclosed by Sato in order to accurately position the sensor with respect to the area of interest being irradiated. Further, Fay discloses a UV source for emitting radiation in a plurality of wavelength for fluorescent detection (see abstract). One of ordinary skill in the art would be motivated to use the emitter as disclosed by Fay with the invention as disclosed by Sato in view of Kimura, in order to increase the excitation efficiency by stimulating radiation in a plurality of wavelengths which will reduce the scanning time.

Regarding claim 2, Kimura discloses that the signals received by the detector are converted into digital data (Figure 1, element 13) with a means for holding the object (element 4) stationary and for moving the line sensor (element 11). Since the line sensor moves, it is obvious that there is a carriage or stage that moves the line sensor to the proper detection postion.

Regarding claim 3, Sato discloses that the radiation source (element 7) is placed parallel to the sensor (element 8).

Regarding claim 4, Sato discloses a window or slit (element 3) that corresponds to an acquisition region.

Art Unit: 2878

Regarding claim 5, Sato discloses a window or slit (element 3) that corresponds to an acquisition region. Sato does not specify that the slit is transparent to fluorescent radiation and the source radiation that induces photoluminescence. However, the source produces both fluorescent radiation (Figure 2, element 16) and UV radiation that induces luminescence (Figure 1, element 7). Therefore in order for the slit to allow for the source to interact with the sample, it is obvious that the slit is transparent to fluorescent radiation and UV radiation, the sources Sato uses in his invention.

Regarding claim 6, Sato in view of Kimura does not specify a plurality of UV sources with several UV wavelengths. However, one of ordinary skill in the art would be motivated to increase the number of UV sources with different UV wavelengths in order to decrease the amount of time required to irradiate the object.

Regarding claim 8, Sato discloses that the charging of the sample material occurs at certain time intervals after and is automatically controlled by the computer (see column 4, lines 29-34). Although Sato does not specify the use of a plate, however such plates are well known in the art, as demonstrated by Kimura (see figure 1, element 1). One of ordinary skill in the art would be motivated to use such a plate with the invention as disclosed by Sato in order to image a series of sample at once versus imaging a single sample at a time as disclosed by Sato.

Regarding claim 9, Sato discloses a system (figure 1) for the processing of fluorescent planar chromatography (abstract), that includes an apparatus comprising means for housing (element 5) the planar object a UV radiation source (or xenon source, element 7) inducing photoluminescence or fluorescence of the object (abstract), and a sensor (element 8) sensitive to fluorescent radiation (column 3, lines 46-51); characterized in that it includes a linear sensor

Art Unit: 2878

(column 3, lines 51-53) provided with a plurality of aligned photosites (column 3, lines 51-54), at least one UV radiation source (element 7); and a control means for controlling illumination (element 11), where the acquisition of a succession of image lines corresponding to at least one region of the plane object whose image it is desired to acquire, combined with a computer (element 10), with processing software (column 4, lines 28-35). Sato does not disclose a carriage that moves with respect to the object. However, such carriages are well known in line sensors, as disclosed by Kimura (Figure 1, element 11) as a moveable line sensor. One of ordinary skill in the art would be motivated to use the moveable line sensor as disclosed by Kimura with the invention as disclosed by Sato in order to accurately position the sensor with respect to the area of interest being irradiated. Further, Fay discloses a UV source for emitting radiation in a plurality of wavelength for fluorescent detection (see abstract). One of ordinary skill in the art would be motivated to use the emitter as disclosed by Fay with the invention as disclosed by Sato in view of Kimura, in order to increase the excitation efficiency by stimulating radiation in a plurality of wavelengths which will reduce the scanning time.

***Allowable Subject Matter***

5. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 7 and 11-16 are allowed.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7 and 11-16, the allowable subject matter was disclosed in a previous office action dated December 15, 2004.

Art Unit: 2878

Regarding claims 10 and 17, none of the prior art of record specifies an image acquisition apparatus or a system for processing fluorescent planar chromatography images that includes a cover means that automatically shuts off the source if the cover is not properly closed. Although there are many such latches or other such fasteners that are coupled to sensors for detecting and improperly closed covers, none of the prior art of record specifies an image acquisition apparatus that automatically stops the emission of UV radiation if the cover is improperly closed. Although references such as Scalese et al. disclose disabling a magnetron if the cover to the microwave moisture apparatus is improperly closed the reference does not specify a cover that automatically stops the emission of UV radiation when the cover is improperly closed.

### ***Response to Arguments***

8. Applicant's arguments filed March 18, 2005 have been fully considered but they are not persuasive.

Applicant argues that it would not be obvious to have a UV radiation source for emitting radiation at two wavelengths in order to carry out fluorescent analysis. However, it is well known and within the skill of one of ordinary art to use a single source that emits a plurality of wavelengths or a plurality of sources that each emit a different wavelength to provide stimulation radiation for fluorescent image detection, as shown by Fay (US Patent 5,149,972 A).

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2878

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 571-272-2448. The examiner can normally be reached on Monday- Friday 7-3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christine Sung  
Examiner  
Art Unit 2878




Application/Control Number: 09/856,597

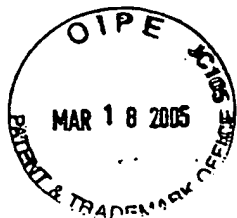
Page 8

Art Unit: 2878

CS



**DAVID PORTA**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**



OK to  
enter  
CSung  
7/6/05

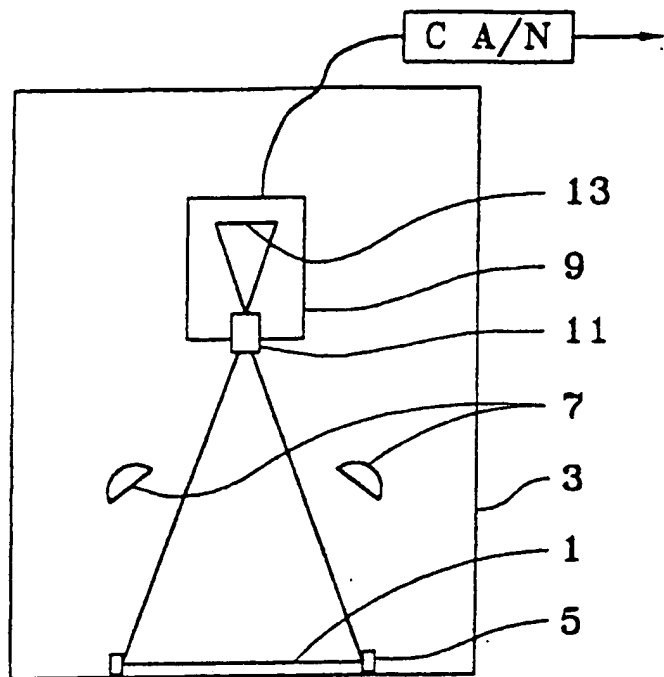


FIG. 1  
PRIOR ART

FIG. 3

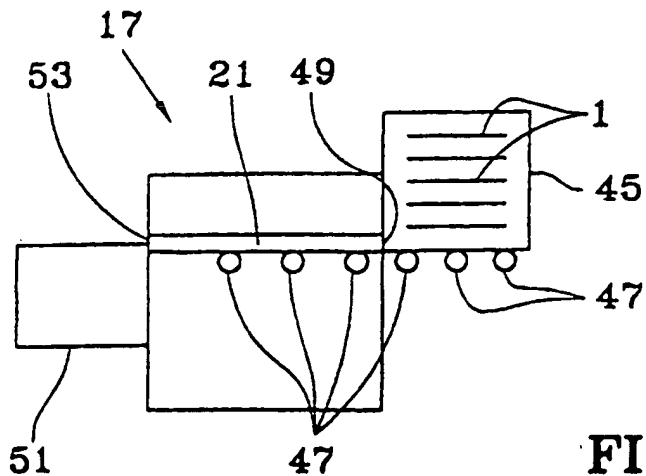
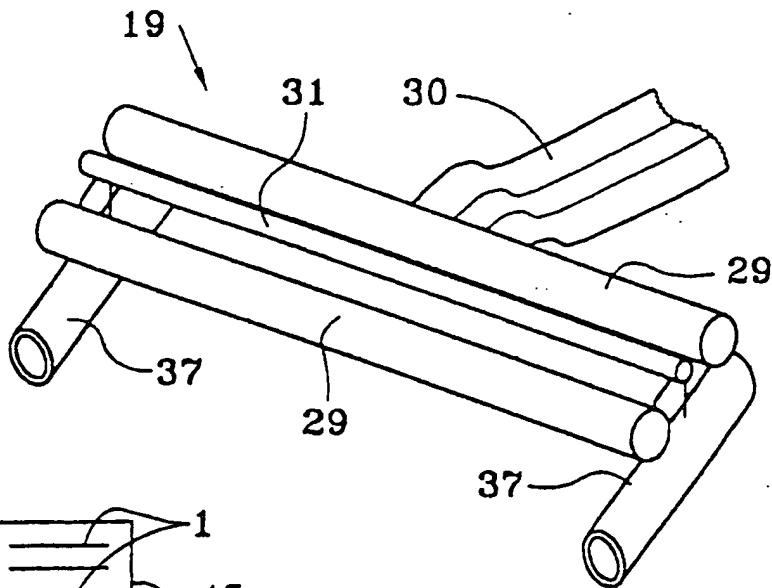


FIG. 4



*ok to  
 enter  
 C-sung  
 7/6/05*

